

Attorney Docket No.: 06137.0021.US02 (RU-0075)  
Inventors: Anderson et al.  
Serial No.: 09/181,601  
Filing Date: October 29, 1998  
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**In the Claims:**

Please cancel claims 15 and 16 without prejudice.

**REMARKS**

Claims 1-17 are pending in the instant application. Claims 1-17 have been rejected. Claims 15 and 16 have been canceled. Reconsideration is respectfully requested in light of these amendments and the following remarks.

**I. Rejection of Claims Under 35 U.S.C. § 102(b)**

Claims 15 and 16 have been rejected under 35 U.S.C. § 102(b) as being anticipated by the University of Alabama at Birmingham campus. The Examiner suggests that this campus, at least one year before the filing date of the instant application, comprised a computer, an NMR facility which had a spectrometer, a data collection device, and computer algorithms to analyze NMR spectra and determine tertiary structure of proteins. Claims 15 and 16 have been canceled. Accordingly, withdrawal of this rejection is respectfully requested.

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## II. Rejection of Claims Under 35 U.S.C. § 103(a)

Claims 1, 5, 6 and 11-14 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Wallace et al. (1996) in view of Holm et al. (1995). Claims 1-6 and 11-14 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Wallace et al. in view of Holm et al. and further in view of Farber et al. (1992). Claims 1, 5-9 and 11-14 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Wallace et al. in view of Holm et al., and further in view of Friedrichs et al. (1994). Claims 1 and 5-14 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Wallace et al. in view of Holm et al., and further in view of Friedrichs et al. and Bagby et al. (1997). Finally, claims 1-9 and 11-17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Wallace et al., in view of Holm et al., and further in view of Farber et al. and Friedrichs et al. Applicants respectfully disagree with the Examiner's conclusions regarding each rejection of the claims under 35 U.S.C. § 103(a).

MPEP § 2143 states that to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or combine the

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reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references when combined must teach or suggest all the claim limitations.

In each case, the primary reference by Wallace et al. does not teach the identification of protein domains of 50 to 300 amino acids. Nor is there any suggestion of this step as Wallace et al. teaches use of a triad of amino acids. Accordingly, the primary reference fails to teach or suggest all the limitations as now claimed. This reference is common to each of the rejections cited.

The secondary references cited under 35 U.S.C. 103(a) fail to overcome the deficiencies in teaching of this primary reference.

The teachings of Holm et al. (1995) is a commentary article wherein the DALI method is disclosed as useful for studying protein structure. Although the Examiner suggests that this paper teaches a comparison that was performed on the Adenovirus type 5 knob domain which is a 195 amino acid comparison, nowhere does this paper teach or suggest that this was specifically such a size comparison. In fact, the table referred to by the Examiner contains no such useful size information. Accordingly, contrary to the Examiner's suggestion, this paper does not teach the method as claimed which recites identifying a putative polypeptide domain consisting of 50 to 300 amino acids.

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The teachings of Friedrichs et al. are related to an automated system for protein  $^{15}\text{N}$ ,  $^{13}\text{C}$ , and  $^1\text{H}$  NMR resonance assignments from a set of three-dimensional NMR spectra. This reference provides no teaching or suggestion of identifying a putative polypeptide domain that properly folds into a stable polypeptide domain of 50 to 300 amino acids as claimed.

Farber et al. disclose a neural network and information theory for determination of coding regions of DNA sequences. This reference also contains no teaching or suggestion with respect to identification of protein or polypeptide domains of 50 to 300 amino acids.

Similarly the reference by Bagby et al. fails to teach or suggest this claim limitation. As acknowledged by the Examiner, the teachings of Bagby et al. are related to preparation of samples for NMR analysis.

Both the MPEP and the case law are clear; to establish *prima facie* obviousness of a claimed invention, all the limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) and MPEP § 2143.03. Accordingly, since none of the prior art references teach or suggest the limitation of identifying a putative polypeptide domain that properly folds into a stable polypeptide domain of 50 to 300 amino

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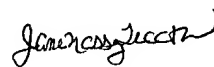
acids, the cited combinations of prior art cannot render obvious the invention as set forth in claim 1 or claims dependent therefrom. Contrary to the Examiner's suggestion, there is no explicit teaching of the size of the domain as contained in the instant claims.

Withdrawal of these rejections under 35 U.S.C. § 103(a) is therefore respectfully requested.

### III. Conclusion

Applicants believe that the foregoing comprises a full and complete response to the Office Action of record. Accordingly, favorable reconsideration and subsequent allowance of the pending claims is earnestly solicited.

Respectfully submitted,



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